



The Quashnet River runs through the heart of Quashnet Woods State Reservation. (See Appendix G for photo information.)

SECTION 6. QUASHNET WOODS STATE RESERVATION

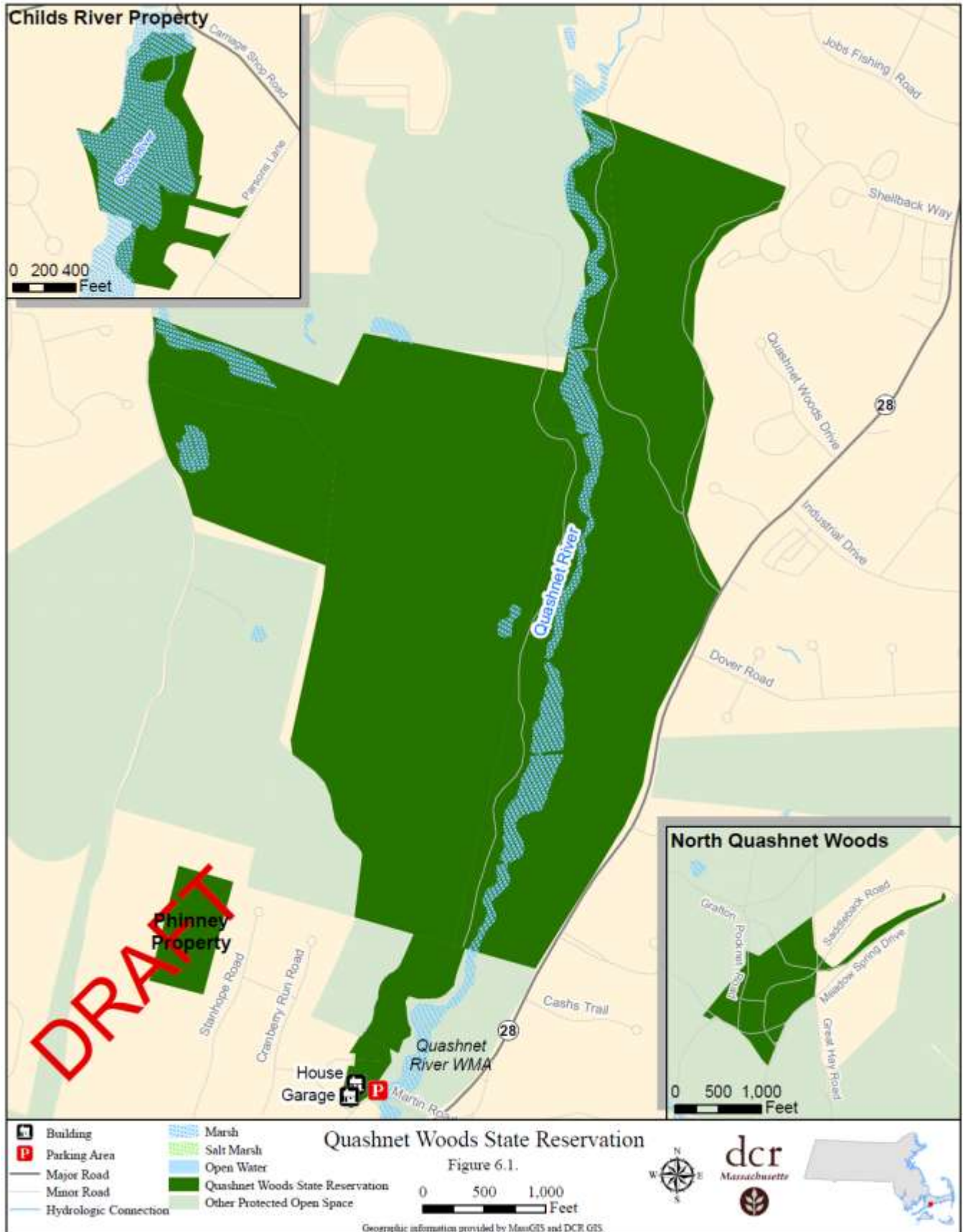
6.1. INTRODUCTION

Six main streams flow into Waquoit Bay; the largest is the Quashnet River (Keay 2000, Louis Berger Group, Inc. 2010). It originates at John's Pond in Mashpee and flows southward to the Bay. As it enters Falmouth its name changes to the Moonakis River. The Quashnet's main source of water is springs from the Sagamore Lens of the Cape Cod SSA.

Protection of the Quashnet River Valley is an extension of decades of efforts to protect the river's fish. The Quashnet's cold waters historically supported populations of sea-run brook trout (i.e., salters), herring, and eels (Keay 2010). As early as 1864, restrictions were placed on the taking of salters from the Quashnet (Chapter 150 of the Acts of 1864). In the 1950s, Massachusetts Division of Fisheries and Game, later the Division of Fisheries and Wildlife (DFW), stocked brook trout (Mullan 1958) and began acquiring property along the river to protect their habitat. This established the Quashnet River Wildlife Management Area (WMA); additional acreage was added in the late 1980s.

Recognizing that protection of water quality and fish habitat requires watershed protection, the Commonwealth purchased 336 acres of stream corridor and adjacent uplands. This property, Quashnet Woods State Reservation (i.e., Quashnet Woods), is contiguous with and north of, the WMA. Quashnet Woods is jointly owned and managed by DFW and the DCR; the former responsible for the riverbanks and the latter responsible for the rest of the property. It has expanded in size since established, and is part of a larger conservation landscape in Falmouth and Mashpee. (Figure 6.1)

The creation of Quashnet Woods reflects an increased emphasis on protecting Waquoit Bay by protecting the rivers and streams that flow into the bay. Other recent watershed protection efforts include acquisitions along the Childs River in Falmouth, and the acquisition of streamside properties associated with WBNERR (Section 3) and South Cape Beach (Section 4).



Quashnet Wood's physical, political, and regulatory attributes are summarized below. (Table 6.1.1)

Table 6.1.1. Physical, political, and regulatory settings of Quashnet Woods and associated properties.

| Setting | Name or Metric |
|--|---|
| Location: | Falmouth, Mashpee |
| Area (acres)^a: | 468.09 |
| Perimeter (miles)^a: | 8.15 |
| Landscape Designation(s)^b: | Woodlands, Reserve |
| Legislative Districts: | |
| House | Third Barnstable |
| Senate | Plymouth and Barnstable Cape and Islands |
| Regulatory Designations: | Priority Habitat Waquoit Bay ACEC Outstanding Resource Waters - Waquoit Bay ACEC Waquoit Historic District |

- a. Calculated using a Geographic Information System (GIS).
 b. For a summary of DCR's landscape designations, see <http://www.mass.gov/eea/docs/dcr/ld/ld-factsheet-final.pdf>.

Associated Properties. Three additional properties are included in this Section: the Phinney property, North Quashnet Woods, and the Childs River property. None are contiguous with Quashnet Woods. These properties, along with Quashnet Woods State Reservation, were acquired to protect the quality and quantity of water flowing into Waquoit Bay. All are located north of Route 28. Throughout this section they are collectively referred to as the watershed properties. (See Figure 1.1 for locations of these properties.)

- **Phinney Property.** Located in Falmouth, west of Stanhope Road; 10 acres.
- **North Quashnet Woods.** Located on Boghouse Road, Mashpee; 27 acres.
- **Childs River.** This property consists of two parcels located on the river, south of Carriage Shop Road, Falmouth; 19 acres. Cranberries were once farmed on portions of this property.

The watershed properties are administered from the WBNERR headquarters as part of the National Estuarine Research Reserve. Other properties in the reserve include WBNERR (Section 3), South Cape Beach (Section 4), and Washburn Island (Section 5).

6.2. NATURAL RESOURCES

Fisheries studies have been conducted in the Quashnet River since at least the late 1940s; this information is available from MassWildlife. There are few other sources of information on Quashnet Woods and the watershed lands' natural resources.

Physical Features

Quashnet Woods and associated watershed properties are located on an outwash plain the slopes gently toward the south and east.

Elevations along the Quashnet River range from approximately 10 feet near Route 28 to approximately 20 feet at the northern end of Quashnet Woods. Elevations reach approximately 50 feet to both the east and west of the river valley; there are numerous depressions in the uplands. The Phinney property is approximately 50 feet above sea level and nearly level. The North Quashnet property has the highest elevations, ranging from 50-90 feet; it slopes westward toward the Quashnet River. Elevations at the Childs River parcel range from approximately 10 to 30 feet, with the topography sloping from both the east and west toward the river bottom.

Water Resources

Quashnet Woods and the watershed lands have the greatest length of rivers and streams of any property in the Complex. A summary of these resources is provided in Table 6.2.1.

Table 6.2.1. Water resources of Quashnet Woods and associated properties.

| Water Resource | Name or Metric |
|-----------------------------------|----------------|
| Watershed: | Cape Cod |
| Aquifer: | Cape Cod SSA |
| Lens | n/a |
| Rivers and Streams (miles) | 1.28 |
| Vernal Pools | |
| Certified (#) | 3 |
| Potential (#) | 0 |
| Wetlands (acres) | 35.62 |
| Lakes and Ponds (acres) | 0.0 |

The Quashnet and Childs river valleys are predicted to be impacted by flooding and storm surge. (Table 6.2.2)

Table 6.2.2. Potential impacts of flooding, hurricane inundation, and sea-level rise to Quashnet Woods and associated properties.

| Type of Impact | Acres | % |
|-------------------------------|-------|-------|
| Flooding: | | |
| 100-year Storm | 32.46 | 6.93 |
| 500-year Storm ^a | 41.80 | 8.93 |
| Hurricane Inundation: | | |
| Category 1 Storm ^b | 2.56 | 0.55 |
| Category 2 Storm ^b | 12.72 | 2.72 |
| Category 3 Storm ^b | 51.58 | 11.02 |
| Category 4 Storm ^b | 68.07 | 14.54 |
| Sea Level Rise | 0.00 | 0.00 |

a. Cumulative value; includes 100-year storm impacts.

b. Cumulative value; includes impacts of all lower category storms.

Approximately 3,800 feet of the Quashnet River Valley is predicted to be impacted by a 100-year storm. Much of the Childs River parcel will be impacted by a 100 year storm; nearly the entire parcel will be affected by a 500-year storm.

Inundation models predict no impacts to the Quashnet Woods State Reservation from Category 1 or 2 storms. A Category 3 storm is predicted to inundate nearly the entire river valley within the park. However, it is not predicted to impact the Martin Road parking lot or adjacent buildings.

In contrast, a Category 1 hurricane is predicted to impact portions of the Childs River parcel, with a Category 2 storm inundating almost the entire property. There is no infrastructure on the parcel to be impacted by these storms.

The projected one-foot rise in sea-level will not affect any of the properties. However, the temperature of coldwater rivers, such as the Quashnet, are highly vulnerable to climate change (Manomet and DFW 2010).

Rare Species

State-listed Species.

There are two known state-listed species (Table 6.2.3). One candidate for federal listing, the New England Cottontail, also occurs in the park.

Table 6.2.3. State-listed species of Quashnet Woods and associated properties, as identified by the NHESP.^{a, b}

| Species ^{a, b} | Type ^c | MESA ^d |
|-------------------------|-------------------|-------------------|
| Barrens buckmoth | I | SC |
| Eastern box turtle | R | SC |

a. Presented alphabetically, by common name.

b. Fact sheets are available at: <http://www.mass.gov/eea/agencies/dfg/dfw/natural-heritage/species-information-and-conservation/mesa-list/list-of-rare-species-in-massachusetts.html>.

c. Types of state-listed species include: I = Insect; and R = Reptile.

d. Status of species listed under the Massachusetts Endangered Species Act (MESA): E = Endangered, SC = Special Concern; and T = Threatened.

Priority Habitat

Approximately half of Quashnet Woods and associated properties (52.02%) is Priority Habitat. This includes the entire southern half and the powerline corridor to the north. Almost all of the Phinney and North Quashnet properties (greater than 97%, each) are also Priority Habitat. None of the Childs River parcel has been so designated.

Vegetation

There have been no comprehensive surveys of the vegetation.

Invasive Species

Five species of invasive or likely invasive plants have been incidentally observed. (Table 6.2.4) They are located adjacent to the Martin Road parking lot. An unidentified honeysuckle is associated with the former residence on Martin Road; it is potentially invasive.

River restoration efforts in the 1970s involved the introduction of a highly invasive plant, reed canary grass (Keay 2000). A 1984 article on the restoration efforts described the shores “as covered by three-foot-high canary grass” (Berger 1984, in Keay 2000). The current distribution of this plant within the park is unknown.

Table 6.2.4. Known invasive and likely invasive plants of Quashnet Woods and associated properties.

| Species ^a | Status ^b |
|----------------------|---------------------|
| Autumn olive | I |
| Multiflora rose | I |
| Norway maple | I |
| Oriental bittersweet | I |
| Reed canary grass | I |

a. Presented alphabetically, by common name.

b. Plants are classified as being either Invasive (I) or Likely Invasive (L) according to MIPAG (2005).

Natural Communities

There have been no formal surveys of natural communities. Three community types are currently known to occur, others are present but remain unidentified. (Table 6.2.5) Forest cover types have been classified and mapped for this property and for all others in the Reserve.

Table 6.2.5. Known natural communities of Quashnet Woods and associated properties.

| Community Type ^a | System ^b | State Rank ^c | Source ^d |
|-----------------------------|---------------------|-------------------------|---------------------|
| Pitch Pine - Oak Forest | T | S5 | 1 |
| Red Maple Swamp | P | S5 | 2 |
| Shrub swamp | P | S5 | 2 |

a. Classified according to Swain and Kearsley (2011).

b. E = Estuarine, P = Palustrine, T = Terrestrial.

c. The NHESP ranks communities from most rare (S1) to the most common (S5).

d. Information contained in this table was obtained from the following sources:

1. WBNERR (2014).
2. DEP Wetlands (1:12,000) data layer.

Forests

Collectively, Quashnet Woods and the watershed properties are largely forested (91.54%). However, the Childs River property is only partially forested (36.09%), while the remaining properties are almost entirely forested (greater than 93% each). CFI data provide an incomplete picture of these properties' forests, identifying only pitch pine, scrub oak, black

huckleberry, lowbush blueberry, eastern teaberry, northern bayberry, and unidentified ferns in the park's one plot.

Wildlife

No formal surveys have been conducted. Spawning populations of sea-run brook trout are known from the Quashnet and Childs' rivers; the latter was established using fish from the former.

6.3. CULTURAL RESOURCES

This section describes the known and potential cultural resource areas, including pre-Contact and post-Contact archaeological resources, and historic buildings, structures, and landscapes. An overview of significant events in the history of Quashnet Woods is presented in Table 6.3.1. Known cultural resources are identified in table 6.3.2.

ARCHAEOLOGICAL RESOURCES

Quashnet Woods State Reservation. No pre-Contact sites are recorded. Archaeological surveys have been conducted on the northern and southern limits of the parcel, and zones of archaeological sensitivity were identified. These can be found in MHC Reports # 1430, #2033, and #2693. Because the parcel contains the Quashnet River and drainage, it is highly sensitive for pre-Contact sites.

Childs River. One pre-Contact site is recorded in the area; there is no information on this site included in the inventory. Three systematic surveys have been conducted in the Childs River area and are reported in MHC Reports # 503, 1622, and 2693. The area is highly sensitive for pre-Contact sites.

Phinney Parcel. No pre-Contact sites are recorded in or near the property. The area is however, moderately sensitive for pre-Contact sites.

North Quashnet. No pre-Contact sites have been recorded in this property. In 2001 and 2002 an intensive archeological survey was conducted of a 350 acre parcel that included the North Quashnet property. The results of these surveys are found in MHC Report #2076 and 2168. The area is moderately sensitive for pre-Contact sites.

Table 6.3.1. Significant events in the history of Quashnet Woods and associated properties.

| Year(s) | Events |
|----------------|--|
| 1956 | Massachusetts Division of Fisheries and Game, later the DFW, purchases 31 acres along the Quashnet River to protect salter brook trout fishery. |
| 1987-1988 | DFW purchases 4.8 acres on the eastern side of the river in 1987 and an additional 13.5 acres in 1988. These purchases were made to further protect the brook trout fishery. |
| 1987 | The Department of Environmental Management and DFW purchase 336 acres of land along the river and on adjacent uplands. DFW has primary management responsibility for the DFW-owned riverbanks and DEM has primary responsibility for the rest of the property. |
| 1995 | Mashpee National Wildlife Refuge established; most properties in the Waquoit Bay watershed fall within the refuge boundary. |
| 1996 | Loop trail constructed along both sides of the Quashnet River. |
| 1998 | Memorandum of Understanding (MOU) developed between DEM and MassWildlife for the management of Quashnet Woods State Reservation; an updated MOU is signed in 2000. |
| 2000 | WBNERR boundary expanded to include lands upstream of Waquoit Bay. |
| 2002 | Childs River property acquired. |
| 2004 | Phinney property acquired. |
| 2004 | Conservation Restriction acquired on 7 acres of Mashpee municipal land. |
| 2005 | NStar property added to Quashnet Woods. |
| 2007-2008 | Approximately 13 acres added to Quashnet Woods State Reservation. |

HISTORIC RESOURCES

The Quashnet River Valley was part of the semi-autonomous Mashpee area that was set aside in the mid-seventeenth century by English colonists for use by the native Wampanoag population. The river was an abundant source of fish for both the Native American and colonist population and in the Eighteenth Century, a number of mills were constructed to harness the water power for processing locally grown grains. Mill dams significantly impacted the fishing stocks, and when the river's main dam was removed in the 1890s, the river banks attracted cranberry growers. By the 1960s, the cranberry industry had crashed due to environmental and market factors. Conservation efforts over the subsequent decades lead to the restoration of the river valley as an ecosystem, and in the process removed many of the historic features including dams and mill structures. The remaining cultural resources are crucial to the story of the river's role in the economic and cultural development of the region.

Historic Landscapes

Childs River Agricultural Landscape. The Waquoit Herring River Company operated a fishery on the Childs River in the late nineteenth and early twentieth centuries. They dammed the river and surrounding creeks as early as 1872, and fish were diverted from downstream flows by means of fish ladders. An earthen dam and ladder north of the property boundary were constructed in 1908.

Two bogs located in the Childs River property serves as tangible reminders of the region's late 19th and early 20th century cranberry industry. Although recent conservation efforts have sought to reverse many of the impacts associated with cranberry farming, this landscape serves as an important reminder of the historic significance of the cranberry on the local economy. The industry harnessed the region's rivers and streams, and often competed with fisheries for water resources until overfishing and environmental conditions brought an end to both by the middle of the 20th century. The entire Childs River parcel is part of both the Waquoit Historic National Register District and the Waquoit Village inventoried area.

Table 6.3.2. Cultural resources of Quashnet Woods and associated properties.

| Location and Resource | Type ^a | Date ^b | Condition ^c | Integrity ^d | In Use ^e | Utilities ^f | MHC # ^g | Guidance ^h |
|--|-------------------|-------------------------------|------------------------|------------------------|---------------------|------------------------|--------------------|-----------------------|
| Wauquoit Village | MHCA | 1750-1900 | - | - | - | - | FAL.A | - |
| Wauquoit Historic District | NRHD | 1700-1950 | - | - | - | - | FAL.AY | - |
| 46 Martin Road | | | | | | | | |
| Residence | BU | 1925 | 3 | M | N | E, H, S, W | - | 1 |
| Garage | BU | 1925 | 3 | H | Y | - | - | 1 |
| Middle Quashnet Reach | | | | | | | | |
| Concrete bog sluice #1 (4 x 18 feet) | ST | Early-mid 20 th c. | 5 | M | - | - | - | 2, 3 |
| Concrete bog sluice #2 (8 x 10 feet) | ST | Early-mid 20 th c. | 5 | M | - | - | - | 2, 3 |
| Concrete bog sluice #3 (10 x 29 feet) | ST | Early-mid 20 th c. | 5 | M | - | - | - | 2, 3 |
| Childs River Parcel | | | | | | | | |
| Childs River Industrial Landscape | LA | c. 1900 | - | - | - | - | - | 2, 4 |
| Wauquoit Village Cranberry Bog and Upland (West of Childs River) | NRHD | c.1900 | - | - | - | - | FAL.949 | 4 |
| Wauquoit Village Cranberry Bog and Upland (East of Childs River) | NRHD | c.1900 | - | - | - | - | FAL.950 | 4 |

- a. Resource types include the following: AR = Archaeological; BU = Building; LA = Landscape; MHCA – Massachusetts Historic Commission Area; NRHD = National Register Historic District; OB = Object; and ST = Structure.
- b. Date of construction provided, when known.
- c. Building system and equipment condition codes as used in the Massachusetts Capital Asset Management Information System (CAMIS): 1 = Excellent-easily restorable to like new condition; 2 = Good-routine maintenance required; 3 = Adequate-some corrective and preventative maintenance required; 4 = Fair-excessive corrective maintenance and repair required; 5 = Poor-renovation needed; and 6 = Fail.
- d. Integrity is a relative assessment of the condition of a resource's retention of its historic character-defining features; H = High; L = Low; M = Medium; and U = Unknown.
- e. Use categories include: N = building is not in use; S = building is used on a seasonal basis; and Y = building is used year-round.
- f. The following codes are used to identify utilities associated with buildings: E = Electric, H = Heat; I = Internet; S = Septic system; T = Telephone; W = Water; and W(S) = Water is available on a seasonal basis. This information is included for all buildings.
- g. Massachusetts Historical Commission inventory number.
- h. The following guidance is offered for the ongoing maintenance of these cultural resources:
1. Refer to Historic Building Maintenance BMP (DCR n.d.i).
 2. Refer to Historic Landscapes - Built Features BMP (DCR n.d.g).
 3. Refer to Archaeological Features BMP (DCR n.d.k).
 4. Refer to Vegetation in Historic Landscapes BMP (n.d.h).

Buildings

There are two historic buildings located in this park. The circa 1920s Cape style Colonial Revival house and small single car garage located at 46 Martin Road. Both are used for storage. These buildings are adjacent to but not included in the National Register nomination, but are included in the boundary as presented in the MACRIS online map (<http://maps.mhc-macris.net/>). For the purposes of this RMP the property will not be considered to be part of the National Register District, however projects that impact the appearance of the property must still be submitted to the Office of Cultural Resources for review.



This house at 46 Martin Road, Falmouth is one of two DCR-owned buildings in Quashnet Woods. (See Appendix G for photo information.)

Structures

Quashnet River Valley Cranberry Bog Sluices.

Three diversion sluices are located along the section of the Middle Quashnet Reach within Quashnet Woods (Louis Berger Group, Inc. 2010). The sluices were built to divert river water into cranberry bogs established during the growth of the industry in the first half of the 20th century. The sluices were built between 1920 and 1960. Sluice #1 is constructed of cast concrete side walls set in an earthen dam and includes a secondary sluice for high flows. Sluice #2 features concrete side walls braced by a series of log timbers. Sluice #3 is set in an earthen embankment and has a wide set channel framed by high formed concrete walls. Further research is required to determine the age and significance of these features, which are all in fair to poor condition.

Two additional historic resources, a box culvert under Martin Road and a former sawmill site are located in the Quashnet River WMA, adjacent to the Quashnet Woods parking lot.

Objects

No objects were identified in this park.

6.4. RECREATION RESOURCES

The following recreation activities are known to occur at Quashnet Woods.

- Fishing, fin fish (catch and release only)
- Geocaching (2 caches as of March 2015)
- Hiking/walking
- Hunting
- Nature study

6.5. INFRASTRUCTURE

There is little non-historic infrastructure.

Property Boundary

Much of Quashnet Woods' boundary is physically indistinct from adjacent conservation lands and open space, and from abutting residential development. The exception to this is the eastern boundary, which is contiguous with Route 28 for approximately 3,500 feet, and then with Whittings Road for approximately 3,800 more feet. Its boundaries are unmarked.

Boundaries of the Phinney parcel are indistinct from adjacent undeveloped land. Its boundaries are unmarked.

The North Quashnet parcel's boundaries are indistinct from adjacent municipal and private conservation lands and a residential neighborhood. Its boundaries have been marked.

The Child's River parcel is indistinct from adjacent wetlands to the west and residential lots to the east. Its boundaries are marked. Despite this, there is possible encroachment along Parson's Lane.

Buildings and Structures

There are no non-historic buildings or structures on Quashnet Woods State Reservation. A U.S. Geological Survey (USGS) stream gauging station shed is located on the Quashnet River WMA, adjacent to the parking lot for Quashnet Woods.

Roads

There are three major forest roads in Quashnet Woods; all run north-south. There is one road west of the river and two to the east; an earthen embankment and concrete sluiceway connects the roads. The easternmost forest road, Whiting Road, approximates the Reservation's boundary. Multiple dirt roads run through the North Quashnet property. The Phinney and Childs River properties have no roads. Information on these roads is summarized in Table 6.5.1.

Table 6.5.1. Condition and length of roads in Quashnet Woods and associated properties.^a

| Road Condition | Paved (Miles) | Unpaved (Miles) |
|----------------|---------------|-----------------|
| Good | 0.00 | 0.00 |
| Fair | 0.00 | 0.00 |
| Poor | 0.00 | 0.00 |
| Total | 0.00 | 0.00 |

a. Based on field assessment; all distances calculated using GIS.

Parking

There is one parking lot, located on Martin Road in Falmouth. The capacity of this lot is identified in Table 6.5.2. This lot is on the Quashnet River WMA, and not on Quashnet Woods State Reservation.

Table 6.5.2. Number of public parking spaces, by location and type, at Quashnet Woods and associated properties.

| Location | HP | Other | Total |
|--|----|-------|-------|
| Martin Road parking lot (trailhead) ^a | 0 | 6 | 6 |

a. Number of spaces is based on the number of potential 9-foot-wide spaces.

Trails

Only Quashnet Woods has a formal trail system; it consists of forest roads that predate establishment of the park, as well as trails specifically created for visitor access. The latter run north-south, on both sides of the river, creating a loop that originates from the Martin Road parking lot. Smaller loops are incorporated into the trail system to the west of the river. The condition of these trails is identified in Table 6.5.4.

Table 6.5.3. Condition and length of official trails at Quashnet Woods and associated properties.

| Trail Condition | Length (Miles) |
|-----------------|----------------|
| Good | 3.29 |
| Fair | 2.42 |
| Poor | 0.70 |
| Total | 6.41 |

Kiosks and Signs

A three-panel kiosk, erected by the DCR, is located adjacent to the Martin Road parking lot within the Quashnet River WMA.



Kiosk at Martin Road parking area. (See Appendix G for photo information.)

Iron Ranger

There is no iron ranger.

Memorials and Markers

There are no known memorials or markers.

6.6. INTERPRETATION

There are no ongoing interpretive programs. WBNERR personnel periodically offer “A river runs through it”, a program on the Reserve’s natural and cultural histories.

The kiosk displays the following interpretive panels:

- Mashpee National Wildlife Refuge: Working Together to Protect Land and Water
- River as Habitat: A Legacy of Neglect Inspires Restoration
- Quashnet River: A Natural Resource Shapes the History of a Community

There are other interpretive displays.

6.7. MANAGEMENT RESOURCES

Staffing

DCR Personnel

Quashnet Woods is unstaffed. Staff members from Waquoit Bay provide labor as needed and available.

MassWildlife Personnel

Quashnet Woods is unstaffed. MassWildlife employees from the Southeast Regional Office in Bourne provide labor as needed and available.

Partnerships and Volunteers

The Waquoit Bay Reserve Foundation was established to support the Reserve through fundraising and volunteerism. Their activities cover all four parks within the Reserve, including Quashnet Woods State Reservation and its watershed lands. (See Section 3.7 for additional information on the WBRF.)

The U.S. Geological Survey monitors stream flow from an equipment shed near the Martin Road parking area; these data are made available to the general public.

The Cape Cod Chapter of Trout Unlimited has been working to restore brook trout populations and

habitat in the Quashnet River since the 1970s. They continue to hold monthly volunteer events. For more information, see the Chapter's web page at <http://www.capecodtu.org/>.

Public Safety

The Falmouth and Mashpee Fire and Police departments provide fire response, emergency services, and law enforcement.

Funding

Conservation Trust Fund

There are no funds in the Conservation Trust Fund dedicated to Quashnet Woods State Reservation.

Retained Revenue

There are no retained revenues.

Other Revenues

There are no other revenues.

6.8. MANAGEMENT PRACTICES

Management of DCR properties is guided by a variety of regulations, policies, BMPs legal agreements, and institutional knowledge. Legal agreements unique to Quashnet Woods are presented in Table 6.8.1.

Table 6.8.1. Key legal agreements for Quashnet Woods and associated properties.

| Party and Subject of Agreement | Type^a | Expiration Date^b |
|---|-------------------------|------------------------------------|
| Massachusetts Division of Fisheries and Wildlife Expansion of WBNERR boundaries to include the Quashnet River property. Update of July 1988 MOU. | A | None |
| National Oceanic and Atmospheric Administration State and federal roles in management of WBNERR. | U | None |
| U.S. Fish and Wildlife Service et al. MOU concerning cooperation and coordination regarding Mashpee National Wildlife Refuge. | U | 1998 |
| Waquoit Bay Reserve Foundation Support for mission of WBNERR. | A | 2018 |

- Agreement types include: A=Memorandum of Agreement; and U=Memorandum of Understanding.
- Year that agreement expires. Permanent agreements are indicated by an expiration date of "None."

The year 2000 agreement between the DEM and DFW defines management responsibilities. The DFW has primary responsibility for the management of "DFW owned riverbanks." The DCR, acting through WBNERR, "has primary responsibility for rest of the property." Functionally, both agencies coordinate their efforts and work cooperatively to manage the property and its resources.

Key management and guidance documents are presented in Table 6.8.2.

Table 6.8.2. Key management and guidance documents for Quashnet Woods and associated properties.

| Author and Document | Year |
|---|------|
| Louis Berger Group, Inc. Waquoit Bay stream restoration master plan: Falmouth and Mashpee, Massachusetts. | 2010 |
| Waquoit Bay National Estuarine Research Reserve Emergency operations plan for the Waquoit Bay National Estuarine Research Reserve. | 2012 |
| Waquoit Bay National Estuarine Research Reserve Hurricane preparedness and response plan for the Waquoit Bay National Estuarine Research Reserve. | 2013 |
| Waquoit Bay National Estuarine Research Reserve Waquoit Bay National Estuarine Research Reserve; Management Plan; 2013-2017. | 2014 |

The 2014 Management Plan (WBNERR 2014) covers all properties in the Reserve, and addresses Reserve research, educations program, and staffing in detail. It does so from the perspective of the National Estuarine Research Reserve System. This plan is updated every five years, per NOAA requirements.

Advisory Committees

The following advisory committee provides input on matters of policy and operations of the Reserve, including Quashnet Woods State Reservation:

- Waquoit Bay National Estuarine Research Reserve Advisory Committee

Additional information on this committee maybe found in WBNERR (2014)

Research Activities

There is a formal registration procedure for research activities in Waquoit Bay National Estuarine Research Reserve. See Section 3.8 for additional information.

Annual Maintenance

Ongoing management practices typically follow a regular schedule. Common activities, and the desired

frequency with which they occur, are identified in Table 6.8.3.

Table 6.8.3. Annual cycle of management activities at Quashnet Woods and associated properties.

| Activity | Spring ^a | Summer ^a | Fall ^a | Winter ^a |
|--|---------------------|---------------------|-------------------|---------------------|
| Litter removal - Beaches, parking lots, walkways | E7 | E7 | E7 | E7 |
| Litter removal - Trails | AN | AN | AN | AN |
| Mowing and trimming | E7/AN | E7/AN | E7/AN | E7/AN |
| Mulching and fertilizing | N/A | N/A | N/A | N/A |
| Pruning - Trees and shrubs | N/A | A1 | N/A | N/A |

a. Frequency codes are: A1 = Once annually; AN = As needed; D = Daily, # times; E = Every # days; N/A = Not applicable.

Natural Resources

Water Resources

Both the towns of Falmouth and Mashpee have adopted nitrogen control bylaws.

Rare Species

The DFW and DCR are working together to maintain, enhance, and create early successional habitat for the New England cottontail. A Cutting plan has been approved for portions of Quashnet Woods in Mashpee (Cutting Plan No. 172-6927-14; NHESP Tracking No. 13-32276a and 13-32276b). This is part of a broader effort to restore cottontail habitat throughout the Mashpee National Wildlife Refuge.

Invasive Species

There is no systematic invasive species monitoring or management at this park.

Vegetation

The lawn at the 46 Martin Road residence is mowed weekly, or more often, during the spring and summer. It is cut on an as needed basis in the fall. This lawn is not fertilized.

Cultural Resources

The Waquoit Bay Stream Restoration Master Plan has identified the three historic sluices on the Quashnet River as possible candidates for removal

as part of ongoing fisheries restoration efforts (Louis Berger Group, Inc. 2010). Review by cultural resource specialists is recommended for all proposed dam and sluice removals (Louis Berger Group, Inc. 2010).

Recreation Resources

Fishing in the Quashnet River is catch and release only and limited to the use of artificial lures.

Infrastructure

There are no infrastructure-related management practices unique to this property.

Buildings

The building, garage, and grounds at 46 Martin Road are visited weekly to check for vandalism.

Roads

There is no regular road maintenance; potholes are filled as needed.

Parking Areas

The parking lot is inspected weekly. Illegally dumped materials are removed from the parking lot as encountered.

Trails

Trails are maintained by volunteers and the Reserve's Stewardship Coordinator. Because portions of the trails are located within Priority Habitat, NHESP review is required before any work may be performed in these areas.

Kiosks and Signs

The interpretive panels on the kiosk at the Martin Road parking lot are static displays; they do not need regular updating.

6.9. RECOMMENDATIONS

Introduction

This section provides recommendations for the near- and long-term management of Quashnet Woods State Reservation and associated watershed lands. Applied Land Stewardship Zoning recommendations provide general guidance for managing these properties. Future activities and projects should be checked against the zoning map (Figure 6.2) for consistency. Management recommendations are all

high-priority, and should be addressed as soon as resources become available.

Applied Land Stewardship Zoning (Figure 6.2)

The following Land Stewardship Zoning is recommended for Quashnet Woods State Reservation.

Zone 1

- No portion of Quashnet Woods State Reservation has been designated Zone 1.

Zone 2

- All portions of Quashnet Woods State Reservation, with the exception of a residential lot at 46 Martin Road, Falmouth. (See Zone 3, below.)
- North Quashnet Woods.
- Phinney property.
- Childs River property.

Zone 3

- 46 Martin Road (entire parcel).

Significant Feature Overlay

- There are no Significant Feature Overlays.

Management Recommendations

Four priority management recommendations were developed for Quashnet River State Reservation and its associated watershed lands. (Table 6.9.1) For a recommendation to be considered priority it must address one or more of the following criteria:

- Regulatory compliance or compliance with legal agreements.
- Threats to the health and safety of park visitors and employees.
- The imminent loss of a natural, cultural, or recreation resource.

Additional maintenance and management needs observed during the preparation of this RMP, but not meeting one or more of the above criteria, are not included in this plan.

The following recommendations are of equal priority.

Table 6.9.1. Priority recommendations for Quashnet Woods and associated properties.

| Recommendation | Implementation ^a |
|--|-----------------------------|
| Investigate potential encroachment along Parsons Lane and resolve with abutters, if warranted. | L, R |
| Continue efforts to restore New England Cottontail habitat. | F, R, V |
| Coordinate activities with the DCR Archaeologist when developing plans to remove sluiceways, dams, mill structures, or other similar archaeological resources. | P, R |
| Submit proposed trail maintenance and construction activities to NHESP for review under MESA. | P, R, V |

- a. The following codes identify the party or parties responsible for implementing the recommendations: B = Bureau of Ranger Services; C = Contractor; E = Division of Engineering; F = Bureau of Forest Fire Control and Forestry; L = Legal Services; O = Other; P = Bureau of Planning, Design & Resource Protection; R = Regional and district staff; U = Universal Access Program; V = Volunteer or partner; and X = Office of External Affairs and Partnerships.

